



SpectraLink 8000 SVP Server

SVP100

Administration Guide

for SRP

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Version F



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About this Guide

This document explains how to configure and maintain one or more SpectraLink 8000 SVP Servers within the SpectraLink 8000 Telephony Gateway system.

Polycom Model Numbers

This document covers the following registered model number:
SVP100

Related Documents

SpectraLink 8000 Telephony Gateway: Administration Guide for SRP
(1725-36028-001)

NetLink e340/h340/i640 Wireless Telephone: Configuration and Administration Guide with SpectraLink Radio Protocol and NetLink Telephony Gateway (72-1065-09)

Available at <http://www.spectralink.com/resources/manuals.jsp>.

Polycom WLAN Compatibility Table (1725-36040-001)

Access Point Configuration Note (1725-36xxx-001) where xxx indicates a number corresponding to the type of access point.).

Available at

http://www.spectralink.com/resources/wifi_compatibility.jsp.

Best Practices for Deploying Enterprise-Grade Wi-Fi Telephony

Available at

http://www.spectralink.com/resources/white_papers.jsp.

Customer Support Hotline

Polycom wants you to have a successful installation. If you have questions please contact the Customer Support Hotline at (800) 775-5330. The hotline is open Monday through Friday, 6 a.m. to 6 p.m. Mountain time.

Icons and Conventions

This manual uses the following icons and conventions.



Caution! Follow these instructions carefully to avoid danger.



Note these instructions carefully.

Label

This typeface indicates a key, label, or button on SpectraLink hardware.

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SpectraLink 8000 SVP Server Overview

The SVP Server is an Ethernet LAN device that works with APs to provide QoS on the wireless LAN. Voice packets to and from the SpectraLink 8000 Wireless Telephones are intercepted by the SVP Server and encapsulated for prioritization as they are routed to and from the SpectraLink 8000 Telephony Gateway.

One or more SVP Servers are required in systems with five or more SpectraLink 8000 Telephony Gateways. In systems with four or fewer SpectraLink 8000 Telephony Gateways, the SVP Server is not required because SVP is handled within the SpectraLink 8000 Telephony Gateway(s).

SpectraLink Voice Priority (SVP) and Quality of Service

SpectraLink Voice Priority (SVP) is the SpectraLink quality of service (QoS) mechanism that is implemented in the wireless telephone and AP to enhance voice quality over the wireless network. SVP gives preference to voice packets over data packets on the wireless medium, increasing the probability that all voice packets are transmitted efficiently and with minimum delay. SVP is fully compatible with the IEEE 802.11b standard.

SpectraLink 8000 Wireless Telephones support basic WMM (Wi-Fi Multimedia) if also supported by the AP as part of the 802.11e protocol. If the AP supports WMM, the wireless telephone automatically discovers and uses it. WMM does not replace the SVP Server.

Multiple SVP Servers

Multiple SVP Server environments are those which have more than one SVP Server. Up to 16 SVP Servers may be installed in any one subnet.

The Timing Function

In the SpectraLink Gateway environment, SVP Servers provide the "timing" function for active calls. In multiple SVP Server environments, the active calls are distributed across the SVP Servers.

The number of active SVP Servers is determined dynamically. Whenever SVP Servers are added to or removed from the system, the distribution of the "timing" function for active calls is affected.

The addition of an SVP Server is detected as soon as the new SVP Server is up and running. The new SVP Server will immediately start providing the "timing" function for the appropriate wireless telephones. The user should not detect any change. The removal of an SVP Server is detected within one minute. During this time, any wireless telephone that was using the SVP Server that was removed will be affected. If the wireless telephone was not in a call, it may lose contact with its Gateway, resulting in a check-out/check-in sequence. If the wireless telephone was in a call, the audio will be lost and the call will be dropped.

SpectraLink 8000 SVP Server Capacity

The table below shows the capacity of SpectraLink 8000 Telephony Gateways in a multiple SVP Server environment. The table shows the total possible calls at 100% active calls. However, since it is unlikely that all handsets will be in use at the same time, the table then analyzes the number of handsets that could be installed in any given system where 15%, 25% or 50% of the handsets are in active calls at any one time. The calculations are not linear due to the Erlang¹ calculation for telephony traffic. The possible installed handsets figures are approximate and meant as a guideline and not as an absolute recommendation for any facility.

| Number of SVP Servers | Number of calls possible per Server | Total possible installed handsets @ 100% in active calls | Number of SpectraLink 8000 Telephony Gateways required | Erlang | Possible installed handsets | | |
|-----------------------|-------------------------------------|--|--|--------|-----------------------------|-----------------------|-----------------------|
| | | | | | @ 15% in active calls | @ 25% in active calls | @ 50% in active calls |
| 1 | 120 | 120 | 15 | 103 | 240 | 240 | 206 |
| 2 | 120 | 240 | 30 | 111 | 480 | 480 | 438 |
| 3 | 120 | 3202 | 40 | 160 | 640 | 640 | 640 |

¹ An *Erlang* is a unit of telecommunications traffic measurement. Strictly speaking, an Erlang represents the continuous use of one voice path. In practice, it is used to describe the total traffic volume of one hour.

Erlang traffic measurements are made in order to help telecommunications network designers understand traffic patterns within their voice networks. This is essential if they are to successfully design their network topology and establish the necessary trunk group sizes.

Erlang traffic measurements or estimates can be used to work out how many lines are required between a telephone system and a central office (PSTN exchange lines), or between multiple network locations.

Please visit www.erlang.com for additional information.

² Limited by the eight simultaneous calls supported by each SpectraLink 8000 Telephony Gateway.

Notes on System Configuration



Wireless telephones cannot roam with uninterrupted service between subnets unless specific LAN components are present. Certain AP/Ethernet switch combinations establish a layer-2 tunnel across subnets that enables the handsets to roam. Without this capability, any call in progress will be dropped when the user moves out of range and the handset must be power cycled in order to resume functionality in the new subnet area.

Please see *Best Practices for Deploying Enterprise-Grade Wi-Fi Telephony* for detailed configuration information when installing multiple SVP Server models across several different subnets.

Subnets are not recommended in SpectraLink 8000 Telephony Gateway environments.



IP multicast addresses are used when SpectraLink i640 and 8030 Wireless Telephones are installed. This requires that multicasting be enabled on the subnet used for the SpectraLink 8000 Wireless Telephones, SVP Server, and Telephony Gateways.

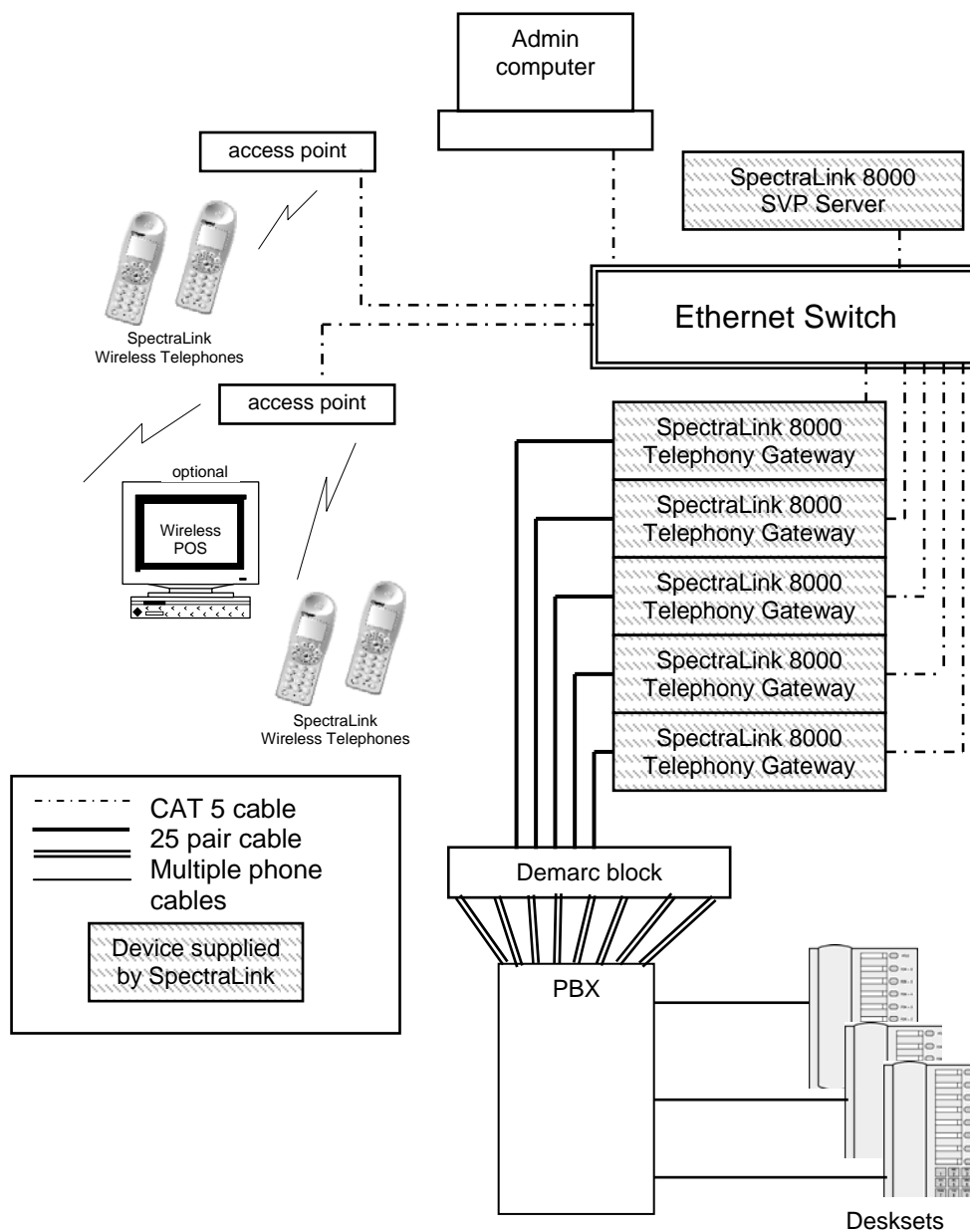
Routers are typically configured with filters to prevent multicast traffic from flowing outside of specific domains. The wireless LAN can be placed on a separate VLAN or subnet to reduce the effects of broadcast and multicast traffic from devices in other network segments.



The SVP Server requires a Cat. 5 cable connection between its network port and the Ethernet switch. The SVP Server auto-negotiates to the type of port on the Ethernet switch and supports 10Base-T, 100Base-T, full-duplex and half-duplex port types.

System Diagram

The following diagram shows one SpectraLink 8000 SVP Server residing on a network with five SpectraLink 8000 Telephony Gateways, wireless LAN APs, and Ethernet switch:



(SpectraLink 8000 Telephony Gateway system example)

System Components

SpectraLink e340/h340/i640 and 8020/8030 Wireless Telephones

Employees can carry wireless telephones to make and receive calls as they move throughout the building. The wireless telephones are to be used on-premises; they are not cellular or satellite phones. They are connected to the facility's existing telephone system and to the SpectraLink 8000 Telephony Gateway. Just like wired telephones, they can receive calls directly, receive transferred calls, transfer calls to other extensions, and make outside and long distance calls (subject to the restrictions applied in your facility.)

SpectraLink 8000 Telephony Gateway

The SpectraLink 8000 Telephony Gateway serves as the connecting point, or gateway, between the LAN and the existing telephone system. One or more SpectraLink 8000 Telephony Gateways are typically installed in the telephone equipment room. Each SpectraLink 8000 Telephony Gateway supports up to 16 telephone lines and wireless telephones. Up to 40 SpectraLink 8000 Telephony Gateways can be connected to the LAN to support additional telephone lines. If five or more SpectraLink 8000 Telephony Gateways are connected to the LAN, a SpectraLink 8000 SVP Server must be installed to handle the increased call volume.

Polycom offers digital SpectraLink 8000 Telephony Gateways that work with the digital ports on most common brands of telephone systems (PBX or key systems). We also offer an analog SpectraLink 8000 Telephony Gateway that works with telephone systems (CO, PBX, or Key Systems) with analog (loop start) ports.

Access points

APs are supplied by third party vendors. They provide the connection between the wired Ethernet LAN and the wireless (802.11) LAN. APs must be positioned in all areas where wireless telephones will be used. The number and placement of APs will affect the coverage area and capacity of the wireless system. Typically, the requirements for use of SpectraLink 8000 Wireless Telephones are similar to those of

wireless data devices. Contact Polycom, or a certified Polycom distributor, for specific information about your facility's needs.

The SpectraLink system must connect to APs that utilize SVP. Contact Polycom, or a certified Polycom distributor, to verify that your AP and its software version are supported.

Ethernet switch

Ethernet switches interconnect multiple network devices, including APs and SpectraLink 8000 Telephony Gateways. Ethernet switches are required to provide the higher performance network connections needed to handle combined voice and data traffic.

Router

The router is an optional component in the wired Ethernet LAN infrastructure that separates a wired LAN into segments so that network traffic is restricted to those segments that are directly involved in the communication. Installation of a network router is recommended in larger networks, where there may be significant network traffic not related to the wireless LAN. A router will isolate the wireless LAN from the associated wired LAN so that they are not impacted by each others' traffic. The SpectraLink 8000 Telephony Gateways, the APs, and their associated Ethernet switch must all be on the same "side" of the router.

SVP Server

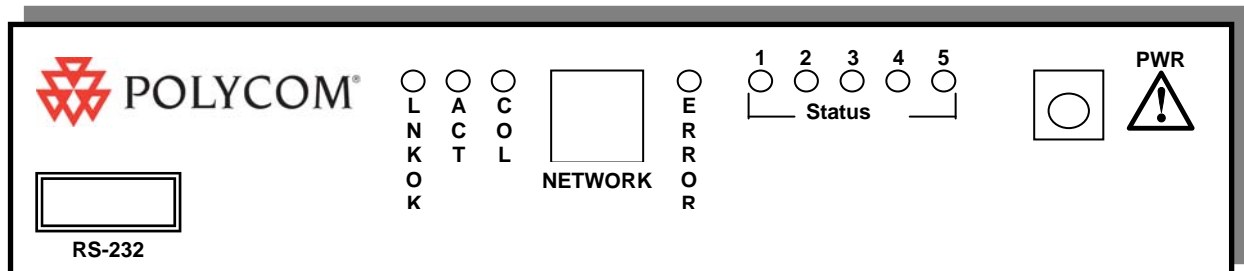
The SVP Server manages call network traffic. It is required in any system when five or more SpectraLink 8000 Telephony Gateways are connected to the LAN.

Administrative computer

An administrative computer is required for setup and maintenance of the SpectraLink 8000 Telephony Gateway and the SVP Server. This computer may be temporarily connected directly to the component or to the network; a dedicated computer is not required. Some installations use a laptop to configure and maintain system components.

The Front Panel of the SVP Server

The SVP Server's front panel contains ports to connect to power, the LAN, and to an administrative computer via an RS-232 port. Status LEDs supply information about the SVP Server's functioning.



RS-232 port: male DB-9 connector (DTE) used for RS-232 connection to a terminal, terminal emulator, or modem for system administration.

LEDs:

LNKOK: Lit when there is a network connection.

ACT: Lit if there is system activity.

COL: Lit if there are network collisions.

NETWORK: Connects to wired (Ethernet) LAN.

ERROR: Lit when the system has detected an error.

STATUS: Indicate system error messages and status.

1: Heartbeat, indicates gateway is running.

2: If active calls.

3, 4, 5: Currently unused

PWR (power jack): Connects to the AC adapter supplying power to the system.



Use only the Polycom-provided Class II AC Adapter with output 24VDC, 1A.

Installing the Spectralink 8000 SVP Server

As shown in the system diagram the SVP Server is connected to the Ethernet switch. The specifications covered here allow for great flexibility in physical placement of the components within stated guidelines.

Required Materials

The following equipment must be provided by the customer.

- ☐ **Power Outlet** – AC adapter provided by Polycom
- ☐ **Backboard space** – The SVP Server is designed to be wall-mounted to 3/4" plywood securely screwed to the wall.
- ☐ **Screws** – Required to mount the SVP Server to the wall. Four #8 3/4" panhead wood screws (or similar device) are required.
- ☐ **Cat. 5 Cable** – RJ-45 connector at the SVP Server. Connection to Ethernet switch.

Locate the SVP Server

The SVP Server measures approximately 4 x 12.5 x 7 inches, and weighs about five pounds. The unit can be wall mounted, vertically or horizontally, over 3/4" plywood. The SVP Server can also be rack mounted using a rack mount kit (sold separately).

Locate the SVP Server in a space with:

- Sufficient backboard mounting space (for wall mount) and proximity to the LAN access device (switched Ethernet hub) and power source.
- Easy access to the front panel, which is used for cabling.

- A maximum distance of 325 feet (100 meters) from the Ethernet switch.

Install the SVP Server

The SVP Server may be mounted on a rack or to a wall.

Mount the SVP Server on a rack

The rack mount kit is designed for mounting equipment in a standard 19" rack and should contain the following equipment:

- ☐ Mounting plates– two for each SVP Server to be mounted.
- ☐ Screws– four rack mount screws for each SVP Server to be mounted.

To rack-mount the SVP Server:

1. Remove the corner screws from the SVP Server
2. Screw the U-shaped end (round screw holes) of the two mounting plates to the SVP Server.
3. Screw the other end of the two mounting plates (oblong screw holes) to the rack.
4. Repeat steps 1-3 for each additional SVP Server. The mounting plate is designed to provide the correct minimum spacing between units. When mounting multiple units, stack the units in the rack as closely as possible.

Mount the SVP Server to a wall

The SVP Server can be mounted either horizontally or vertically.

To mount the SVP Server:

1. Using a 1/8-inch drill bit, drill four pilot holes, on 1.84-inch by 12.1-inch centers (approximately equivalent to 1-13/16" by 12-1/8").
2. Insert the #8 3/4-inch screws in the pilot holes and tighten, leaving a 1/8-inch to 1/4-inch-gap from the wall.

Connect SVP Server to LAN

Using a Cat. 5 cable, connect the **NETWORK** port on the SVP Server to the connecting port on the Ethernet switch.

Connect power

1. Connect the power plug from the AC adapter to the jack labeled **PWR** on the SVP Server.



Use only the provided Class II AC Adapter with output 24VDC, 1A.

2. Plug the AC adapter into an 110VAC outlet to apply power to the SVP Server.
3. The system will cycle through diagnostic testing and the LEDs will blink for about one minute. When the system is ready for use:
 - The **ERROR** LED should be off.
 - **Status 1** should be blinking.

Configuring the SpectraLink 8000 SVP Server

During initial setup of the SVP Server the IP address is established and the maximum number of active calls per AP is set. Optionally, you may enter a hostname and a location for software updates via TFTP.

Connecting to the SVP Server

The initial connection to the SVP Server must be made via a serial connection to establish the SVP Server's IP address. After the IP address is established, connection to the SVP Server may be done via the network using Telnet. It is recommended that the basic setup actions occur while the serial connection is made.

Connect via the serial port

1. Using a DB-9 female, null-modem cable, connect the SVP Server to the serial port of a terminal or PC.
2. Run a terminal emulation program (such as HyperTerminal™) or use a VT-100 terminal with the following configuration:
Bits per second: 9600
Data bits: 8
Parity: None
Stop bits: 1
Flow control: None
3. Press Enter to display the SVP Server login screen.
4. Enter the default login: **admin** and default password: **admin**. These are case sensitive.
5. The **Netlink SVP-II System** menu will display.

Connecting via telnet



Telnet can only be used after the SVP Server's IP address is configured.

The Telnet method of connection is used for routine maintenance of the SpectraLink Server for both local and remote administration, depending on your network.

To connect via Telnet, run a Telnet session to the IP address of the SVP Server. Once you connect and log in, the **NetLink SVP-II System** menu displays.

The NetLink SVP-II System Menu

The main menu displays as shown here:

```
NetLink SVP-II System
Hostname: [SUPV2_1], Address: 10.8.0.61

System Status
SUP-II Configuration
Network Configuration
Change Password
Exit

Enter=Select      ESC=Exit      Use Arrow Keys to Move Cursor
```

System Status — menu for viewing error messages, status of operation and software code version.

SVP-II Configuration — allows you to set the mode and reset the system.

Network Configuration — allows you to set network configuration options, including IP address and hostname.

Change Password — allows you to change the password for SVP Server access.

Network Configuration

The IP address and other network settings are established via the **Network Configuration** screen. This is also where you may optionally establish a hostname and enter the IP address of the location of any software updates you may obtain from Polycom. See Chapter 5 *Software Maintenance* for more information about installing software updates via TFTP.

Scroll to **Network Configuration** and select by pressing Enter. A screen similar to the following appears:

```

                                Network Configuration
                                Hostname: [SVP100_1], Address: 10.8.0.61

Ethernet Address (fixed):      00:90:7A:02:8F:AB
IP Address:                   10.8.0.61
Hostname:                    SVP100_1
Subnet Mask:                  255.0.0.0
Default Gateway:              10.0.0.90
SVP-II TFTP Download Master:  10.0.0.3
Primary DNS Server:           NONE
Secondary DNS Server:         NONE
DNS Domain:                   NONE
WINS Server:                  10.13.0.1
Workgroup:                    WORKGROUP
Syslog Server:                10.0.0.31
Disable Telnet service:       N
Maintenance Lock:             N

Enter=Change  S=SendAll  ESC=Exit      Use Arrow Keys to Move Cursor
```

Note the navigation options at the bottom of the screen. Press Enter to change a value, ESC to exit the screen, and the arrow keys to move the cursor.

SendAll

In a system with multiple SVP Servers, the **SendAll** option is provided to speed configuration and to ensure identical settings. The **S=SendAll** option allows you to send that configuration parameter to every SVP Server on the LAN. **SendAll** can only be used after the IP address is established on EACH SVP Server via the serial connection. If you anticipate identical settings across the LAN, set just the IP address and custom hostname (if desired) for each SVP Server using the initial serial connection. Then connect via the LAN and use **SendAll** to set identical configuration options for all SVP Servers.

If **SendAll** is to be utilized in your system, all passwords must be identical. DO NOT CHANGE THE PASSWORD AT THE INITIAL CONFIGURATION IF THE **SendAll** OPTION IS DESIRED. Use the default password and change it globally if desired after a LAN connection is established for all SVP Servers.

If independent administration of each SVP Server is desired, the passwords may be set at initial configuration.

The following options must be configured:

IP Address

Enter the IP address of the SVP Server, defined by your network administrator. Enter the complete address including digits and periods. **DHCP** may be entered.

The SVP Server will automatically lock for maintenance if the IP address is changed. When this **Maintenance Lock** occurs, the SVP Server must be reset upon exit. All active calls are terminated during a reset.

Hostname

(Optional) The name of the SVP Server to which you are connected, for identification purposes only. You cannot enter spaces in this field. Change the default host name, if desired.



The host names for each SVP Server and OAI Gateway on the system must be unique.

Subnet Mask

The network administrator must define the subnet mask.

Default Gateway

The IP address of a router on the local subnet.

SVP-II TFTP Download Master

This entry indicates the source of software updates for the SVP Server. See Chapter 5 *Software Maintenance* for more information. Valid source location entries are:

- **NONE:** disables.
- **IP Address:** The IP address of a network TFTP server that will be used to transfer software updates to the SVP Server.

DNS Server and DNS Domain

These settings are used to configure Domain Name services. Consult your system administrator for the correct settings. These can also be set to **DHCP**. This will cause the DHCP client in the SVP Server to attempt to automatically get the correct setting from the DHCP server. The DHCP setting is only valid when the IP address is also acquired using DHCP.

WINS Servers

These setting are used for Windows Name Services. Consult your system administrator for the correct settings. These can also be set to **DHCP**. This will cause the DHCP client in the SVP Server to attempt to automatically get the correct setting from the DHCP server. The DHCP setting is only valid when the IP address is also acquired using DHCP.



When the name services are set up correctly, the SVP Server can translate hostnames to IP addresses. Using Telnet, it is also possible to access the SVP Server using its hostname instead of the IP address.

Workgroup

As set in WINS.

Syslog Server

Logging can be set to **Syslog** or **NONE**. If Syslog is set, a message is sent to the syslog server when an alarm is triggered.

Disable Telnet service

Prevents Telnet access into the SVP Server. Reset the SVP Server for the change to take effect. Upon reset the Telnet protocol server is not started.

The SVP Server must be reset in order to set the configuration options. If the SVP Server is in **Maintenance Lock**, you must manually reset it by selecting the **Reset** option in the **SVP-II Configuration** screen and then pressing Y upon exit.

SVP Server Configuration

The **SVP-II Configuration** screen is where you set the mode of the SVP Server. It is also where you can lock the SVP Server for maintenance and reset the SVP Server after maintenance. The type of gateway you are using determines the mode of the SVP Server. **SVP-II Mode** must be set to **NetLink** for systems using the SpectraLink 8000 Telephony Gateway.

From the main menu, scroll to **SVP-II Configuration** and select by pressing Enter.


```

                                SVP-II Configuration
                                Hostname: [SVPII_1], Address: 10.8.0.52

SVP-II Mode:                    Netlink IP
Ethernet link:                  auto-negotiate
System Locked:                  N
Maintenance Lock:              N
Inactivity Timeout (min):      20
QoS Configuration
Reset
Reset all SVP servers

Enter=Change                    ESC=Exit    Use Arrow Keys to Move Cursor

```

The SVP Server will automatically lock for maintenance if the IP address is changed. When this **Maintenance Lock** occurs, the SVP Server must be reset upon exit. All active calls are terminated during a reset.

SVP-II Mode

Set to **NetLink** when using a SpectraLink 8000 Telephony Gateway.

Ethernet link

The SVP Server will auto-negotiate unless there is a need to specify a link speed.

System Locked

This option is used to take the system down for maintenance. The default entry is **N** (No). Set it at **Y** (Yes) to prevent any new calls from starting. Return to **N** to restore normal operation.

Maintenance Lock

The system automatically sets this option to **Y** (Yes) after certain maintenance activities that require reset, such as changing the IP address. **Maintenance Lock** prevents any new calls from starting. Note

that the administrator cannot change this option. It is automatically set by the system. Reset the system at exit to clear **Maintenance Lock**.

Inactivity Timeout (min)

Set the number of minutes the administrative module can be left unattended before the system closes it. This number can be from 1 to 100. If it is set to zero (0), the administrative module will not close due to inactivity.

QoS Configuration

```

                                QoS Configuration
                Hostname: [slnk-03e396], Address: 10.13.0.127

Traffic Class DSCP Tag
-----
Administration Default
  WT (In call) Default
  WT (Standby) Default
             RTP Default
             PBX Default
  Inter-SVP2 Default

Enter=Change  S=SendAll  ESC=Exit    Use Arrow Keys to Move Cursor

```

DSCP Tag

(Differentiated Services Code Point) is a QoS mechanism for setting relative priorities. Packets are tagged with a DSCP field in the IP header for type of service. The decimal value may be set as a number from 0-63 and may be different for each traffic class listed on the screen.

Administration tags set the priority for telnet, TFTP, and other administrative traffic. Administrative traffic can have the lowest priority because it does not require voice quality.

WT (In call) traffic requires voice quality and may be set to a higher priority than **WT (Standby)** traffic.

RTP traffic is the audio traffic to the PBX. It requires voice quality.

PBX traffic is not audio to the PBX.

Inter-SVP2 traffic is the information-passing protocol that SVP Servers use to communicate with each other.

The final DSCP tag of traffic for packets in each of the above Traffic Classes is governed by the logic below when SVP is used in an SRP environment:

- If in-call and **WT (In call)** value is not **Default** then the configured value is used. Valid range is 0-63.
- If not in-call and **WT (Standby)** value is not **Default** then the configured value is used. Valid range is 0-63.
- **Default** means “shall not change value of DSCP tag”, in other words the received DSCP value (from the Gateway) is passed transparently.

Reset System

If this option is selected, you will be prompted to reset the SVP Server upon exiting this screen.



The SVP Server should be reset at the end of any maintenance procedure that requires a reset either via **Maintenance Lock** or manually via **Reset System**.



Note that resetting the SVP Server will terminate any calls in progress.

Change Password

If desired, the password to access the SVP Server may be changed.

A password must meet the following requirements:

- It must be more than four characters, but cannot exceed 16 characters.
- The first character must be a letter.
- Numbers or letters are allowed.
- No dashes, spaces, or punctuation marks, etc. are allowed.

1. Select **Change Password** from the main menu. A screen similar to the following will appear:

Change Password
Hostname: [SUPV2_1], Address: 10.8.0.61

| | |
|----------------------|-------|
| Old Password | ***** |
| New Password | ***** |
| Confirm New Password | ***** |

Set Password
Set Password on all SVP servers

Enter=Select ESC=Exit Use Arrow Keys to Move Cursor

2. Enter the information and either select **Set Password** or press the S key to set the new password.

If you forget a password, call Polycom Customer Service for assistance.

Swapping/Adding/Deleting SVP Servers

Whenever an SVP Server is removed from the system, wireless telephones that are using the SVP Server will be affected. If the removal of the SVP Server is intentional, the administrator should lock and idle the system prior to removing an SVP Server. Whenever an SVP Server is added to the system, the change is seamless and does not affect wireless telephone calling functionality.

In a SpectraLink Gateway environment, the addition of an SVP Server is detected as soon as the new SVP Server is running. The new SVP Server will immediately start providing the "timing" function for the appropriate wireless telephones. The user should not detect any change. The removal of an SVP Server is detected within one minute. During this time, any wireless telephone that was using the SVP Server that was removed will be affected. If the wireless telephone was not in a call, the wireless telephone may lose contact with its gateway, resulting in a checkout/checkin sequence. If the wireless telephone was in a call, the audio will be lost and the call will be dropped.

Software Maintenance

The SVP Server uses proprietary software programs written and maintained by Polycom Corporation. The software versions that are running on the system components can be displayed via the **System Status** screen.

You may obtain information about software updates from Polycom or its authorized dealer.

At startup the SVP Server uses TFTP to check the software version it is running against the version in the TFTP location. If there is a discrepancy, the SVP Server will download the version in the TFTP location.

Software Updates

Lock the SVP Server in the **SVP-II Configuration** screen prior to updating the software.

Downloads for the SVP Server are available from <http://www.spectralink.com/softwareUpdates>.

After software updates are obtained from Polycom, they must be transferred to the TFTP location in the LAN to update the code used by the SVP Server.



Note that locking the SVP Server will prevent new calls from starting. All calls in progress will be terminated when the SVP Server is reset.

Troubleshooting via System Status Menu

Information about system alarms, and network status displays on various screens accessed through the **System Status Menu** screen, which is opened from the main menu of the SVP Server. See the previous sections for directions on how to connect to the SVP Server and navigate to the **System Status Menu**.

```
System Status Menu
Hostname: [SUPV2_1], Address: 10.8.0.61

Error Status
Network Status
Software Versions
Gatekeeper Database

Enter=Select      ESC=Exit      Use Arrow Keys to Move Cursor
```

Error Status — displays alarm and error message information.

Network Status — displays information about the Ethernet network to which the SVP Server is connected.

Software Versions — lists the software version for each SpectraLink component.

Gatekeeper Database — not used in a SpectraLink 8000 Telephony Gateway environment.

Options on the **System Status Menu** provide a window into the real time operation of the components of the system. Use this data to determine

system function and to troubleshoot areas that may be experiencing trouble.

Error Status

The **Error Status** screen displays any alarms that indicate some system malfunction. Some of these alarms are easily remedied and others require a call to Polycom's Customer Support Department.

From the **System Status Menu**, select **Error Status**. The screen displays active alarms on the SVP Server.

The following table displays the list of alarms and a description of the action to take to eliminate the alarm.

| Alarm Text | Action |
|------------------------------------|--|
| Maximum payload usage reached | Reduce usage, clear alarm |
| Maximum telephone usage reached | Reduce usage, clear alarm |
| Maximum access point usage reached | Reduce usage, clear alarm |
| Maximum call usage reached | Reduce usage, clear alarm |
| SRP audio delayed | Reduce usage, clear alarm |
| SRP audio lost | Reduce usage, clear alarm |
| No IP address | Configure an IP address |
| SVP Server(s) lost | Reduce usage or replace lost SVP Server. Clear alarm |

Press C to clear all clearable alarms.

Network Status

The SVP Server is connected to the Ethernet network, referred to as the LAN or Local Area Network. The information about that connection is provided through the **Network Status** screen.

From the **System Status Menu**, select **Network Status**. The screen displays information about the Ethernet network. This information can help troubleshoot network problems. A sample screen is displayed here.

```

                                Network Status
                                Hostname: [SUPV2_1], Address: 10.8.0.61

Ethernet Address: 00:90:7A:00:77:15      Net: 100/Full
System Uptime:    6 days, 02:34          Max calls: 80

RX:  bytes    packets  errors  drop  fifo  alignment  multicast
    432891547  4112190      0      0      0          0      1321217

TX:  bytes    packets  errors  drop  fifo  carrier  collisions
    1478261799 1311194      0      0      0          0          0

SUP-II Sockets in Use      (Last / Max):      0 / 10
SUP-II Access Points in Calls (Last / Max):      0 / 2
SUP-II Telephones in Use   (Last / Max):      0 / 1
SUP-II Telephones in Calls (Last / Max):      0 / 2
SUP-II SRP Audio           (Delay / Lost):      0 / 0

                                ESC to Exit

```

Ethernet Address – MAC address of the SVP Server (hexadecimal).

System Uptime – the number of days, hours and minutes since the SVP Server was last reset.

Net – the type of connection to the Ethernet switch currently utilized. See *SVP100 Capacity* for more information.



Data is transmitted over SpectraLink components by proprietary technology developed by Polycom Corporation. The SpectraLink Radio Protocol (SRP) packets and bytes can be differentiated from other types of transmissions and are used to evaluate system functioning by Polycom customer support and engineering personnel.

RX – Ethernet statistics concerning the received packets during System Uptime.

bytes – bytes received

packets – packets received

errors – Sum of all receive errors (long packet, short packet, CRC, overrun, alignment)

drop – packets dropped due to insufficient memory

fifo – overrun occurred during reception

alignment – nonoctet-aligned packets (number of bits NOT divisible by eight)

multicast – packets received with a broadcast or multicast destination address

TX – Ethernet statistics concerning the transmitted packets during System Uptime.

bytes – bytes transmitted

packets – packets transmitted

errors – Sum of all transmit errors (heartbeat, late collision, repeated collision, underrun, carrier)

drop – packets dropped due to insufficient memory

fifo – underrun occurred during transmission

carrier – carrier lost during transmission

collisions – packets deferred (delayed) due to collision

SVP-II Access Points in Use – APs in use by wireless telephones, either in standby or in a call. ‘Last’ is current, ‘Max’ is the maximum number in use at one time.

SVP-II Access Points in Calls – APs with wireless telephones in a call.

SVP-II Telephones in Use – wireless telephones in standby or in a call.

SVP-II Telephones in Calls – wireless telephones in a call.

SVP-II SRP Audio (Delay) – SRP audio packets whose transmission was momentarily delayed.

SVP-II SRP Audio (Lost) – SRP audio packets dropped due to insufficient memory resources.

Software Version

The SVP Server and wireless telephones utilize Polycom Corporation’s proprietary software that is controlled and maintained through versioning. The **Software Version** screen provides information about the version currently running on the SVP Server. This information will help you determine if you are running the most recent version and will assist Polycom engineering and/or customer support in troubleshooting software problems.

This screen also displays the model type.

From the **System Status Menu**, select **Software Version**. A sample screen is displayed here.

```

                                Software Version Numbers
                                Hostname: [slnk-02c02a], Address: 10.8.0.92

SVP Type:                100
Hardware Versions:       33/02
Factory Page:            213.001
Downloader:              213.004 (e668be62)
Table of Contents:       173.024 (4553d976)
Functional Code:         174.024 (f4ae1d58)
File System:             175.024 (4bfc9a09)

                                ESC to Exit

```

Note that the software versions on your system may be different from the versions displayed in the above sample screen.

The table below shows the description, major version numbers, and filenames of the files that are provided when downloading updates.

| Name | Major Version Number | Filename |
|-------------------|----------------------|------------|
| Table of contents | 173 | svp100.toc |
| Functional code | 174 | zvmlinux |
| File system | 175 | flashfs |

The minor version numbers for these three files must all match, as they do in the screen example (17x.024).

Safety Notices



WARNING: Changes or modifications to this equipment not approved by SpectraLink Corporation may cause this equipment to not comply with part 15 of the FCC rules and void the user's authority to operate this equipment.



WARNING: SpectraLink products contain no user-serviceable parts inside. Refer servicing to qualified service personnel.



IMPORTANT SAFETY INFORMATION

Follow these general precautions while installing telephone equipment:

- Never install telephone wiring during a lightning storm.
- Never install telephone jacks in wet locations unless the jack is specifically designed for wet locations.
- Never touch uninsulated telephone wires or terminals unless the telephone line has been disconnected at the network interface.
- Use caution when installing or modifying telephone lines
- When installing Base Stations outside or in buildings other than the one containing the System Controller, take the following precaution:
If wiring for a Base Station exits a building—whether to reach an outdoor Base Station location or to reach a Base Station in another building—the wiring must be protected at both ends by a Quick Clip Fuse from Illinois Tool Works, Linx Division, model number SCP-2X2. The Quick Clip Fuse replaces the bridging clips on the 66 blocks for all four connections to the non-internal Base Station.

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